

#### ABSTRACT OF THE DISCLOSURE

A mediated electrochemical oxidation process is used to treat, oxidize and dispose of biological waste materials. Waste materials are introduced into an apparatus for contacting the waste with an electrolyte, which comprises one or more oxidizing species in their higher valence states in aqueous solution. The electrolyte, which can be regenerated, is used to oxidize specific molecules of the waste materials, breaking them down and preventing the formation of dioxins. The waste treatment process takes place at a temperature range from room temperature up to a temperature slightly below the boiling point of the electrolyte solution (usually the temperature will be below 100°C), and can be altered by adding ultraviolet radiation.